

**CALIFORNIA DEPARTMENT OF HEALTH SERVICES
DRINKING WATER PROGRAM
PUBLIC WATER SYSTEM VIOLATIONS REPORT**

(Calendar Year 2000)

SECTION I: Introduction

The Safe Drinking Water Act (SDWA) Amendments of 1996 included provisions requiring States to complete annual reports on violations of primary drinking water regulations by the public water systems (PWS) in their state. The report is required to include violations with respect to (1) maximum contaminant levels (MCL) of primary drinking water standards, (2) treatment techniques, (3) variances and exemptions, and (4) significant monitoring requirements. The states are also required to make this annual report available to the public and to distribute summaries of the report.

The California Department of Health Services (Department) is designated by the United States Environmental Protection Agency (USEPA) as the primacy agency to administer and enforce the requirements of the federal SDWA in California. The Department's drinking water regulatory program covers all PWS defined under state and federal statutes. The State of California and the Department have adopted statutes and regulations to implement the requirements of the SDWA Amendments of 1996.

PWS are required to conduct routine monitoring for regulated contaminants that may be present in their drinking water supply. The failure of a PWS to conduct the required monitoring is considered a monitoring violation. A monitoring violation also results when a PWS fails to report water quality monitoring results to the Department or other appropriate regulatory agency.

A monitoring violation is considered significant under the Surface Water Treatment Rule when fewer than ten percent (10%) of the required water samples are taken or the water quality monitoring results are not reported during the required reporting interval.

The Department has delegated the authority to implement the requirements of the SDWA to thirty-four (34) counties in California. This delegated authority only applies to small PWS serving less than 200 service connections. The delegated counties (or Local Primacy Agencies) regulate approximately 5,000 small PWS statewide. The Department retains the regulatory authority over the small PWS in the remaining twenty-four (24) non-delegated counties. A list of the delegated counties is included in Appendix C of this report. The delegated counties are responsible for submitting drinking water regulatory program data to the Department for the PWS they regulate.

The Department submits all available drinking water regulatory program data to the USEPA electronically via the Safe Drinking Water Information System (SDWIS) on a quarterly basis. The data submitted to SDWIS typically includes (1) PWS inventory statistics, (2) MCL violations, Major Monitoring and Treatment Technique violations, (3) the enforcement actions taken by the Department against PWS for violations, and (4) variances and exemptions. The USEPA regions also report federal enforcement actions into the SDWIS database.

During calendar year 2000, the Department experienced technical problems in the transfer of water quality and violations data into the federal SDWIS. Consequently, this report does not include complete water quality and violations data for all PWS in California. The Department is aggressively working with the USEPA to resolve the data transfer problems to ensure the completeness and accuracy of the SDWIS data in the future.

The violations information included in this report reflects the data available from SDWIS for the period of January 1, 2000 through December 31, 2000. A copy of this report is available to the public by contacting the Department at (916) 323-6111. This report is also available on the Department's website at www.dhs.ca.gov/ps/ddwem/publications/pubindex.htm.

SECTION II: Variances and Exemptions

The Safe Drinking Water Act Amendments of 1996 allow primacy states to issue variances and exemptions to public water systems for specific national primary drinking water regulations under certain circumstances. Public water systems are eligible to receive a variance if the characteristics of their raw water sources are such that the water system cannot meet the MCL even though the water system installs the best available technology, treatment techniques, or other approved method to meet the MCL. To issue a variance for an MCL, a state must (1) find that the variance will not result in an unreasonable risk to health, and (2) establish a schedule for the public water system to achieve compliance with the MCL. Small water systems as defined for variances (serving 3,300 or fewer persons; or 10,000 or fewer persons with the Administrator's approval) may be granted variances if they cannot afford to comply with certain MCLs (non-microbial, promulgated after January 1, 1986) by means of treatment, alternative source of water, and restructuring or consolidation. Small systems must, within 3 years, install and operate EPA approved small system variance technology. The variance must ensure adequate protection of human health, and the variance shall be reviewed not less than every 5 years to determine whether the system remains eligible for the variance.

An exemption for an MCL and/or treatment technique may be issued to any public water system if noncompliance is the result of compelling factors and the exemption will not result in an unreasonable risk to public health. Examples of compelling factors include (1) economic circumstances of the public water system, (2) the effective date of the MCL or treatment technique occurs after the water system begins operation, (3) no reasonable alternative source of drinking water is available to the water system, or (4) management organization changes cannot reasonably be made by the water system that will result in compliance with the SDWA or improvement of drinking water quality. All public water systems that receive an exemption must

achieve compliance with the MCL or treatment technique as expeditiously as practicable, but not later than 3 years after the applicable compliance date.

The Department did not report any variances or exemptions for the calendar year 2000.

SECTION III: Summary of Violations

This section identifies the categories of violations and summarizes the SDWIS violations information provided in Appendix A. In addition, a brief explanation of the violations is provided.

Organic Contaminants

Sixty-one (61) organic contaminants were monitored by PWS in California during the calendar year 2000 for compliance with primary drinking water standards. Trichloroethylene was the only organic contaminant which exceeded the MCL and there was only one (1) reported violation for this contaminant. The violation is summarized in Appendix A and the name of the PWS reporting the MCL violation is included in Appendix B.

Inorganic Contaminants

Seventeen (17) inorganic contaminants were monitored by PWS in California during the calendar year 2000 for compliance with primary drinking water standards. Nitrate was the only inorganic contaminant for which MCL violations were reported. A total of ten (10) MCL violations for nitrate were reported by nine (9) PWS. The violations are summarized in Appendix A and the names of the PWS reporting the MCL violations are included in Appendix B.

Radionuclides

During the calendar year 2000, there were no reported MCL violations for the six (6) radionuclide contaminants monitored by PWS in California. The monitored radionuclide primary drinking water standards included gross alpha, gross beta, combined radium-226 and 228, tritium, strontium-90, and uranium.

Trihalomethanes

During the calendar year 2000, there were no reported MCL violations for the trihalomethanes contaminants monitored by PWS in California. The primary drinking water standard for trihalomethanes consisted of the Interim Primary Drinking Water Regulations For the Control of Trihalomethanes in Drinking Water, Sections 141.2(p), (q), (r), (s) and (t), 141.6, 141.12 and 141.30 of Title 40, Code of Federal Regulations, as published in the November 29,

1979, Federal Register (Vol. 44, No. 231) and revised in the March 11, 1980, Federal Register (Vol. 45, No. 49).

Total Coliform Rule

The Total Coliform Rule violations data identifies the presence of microbiological contamination in drinking water supplies. PWS are required to monitor for coliform bacteria as the basis for establishing compliance with the bacteriological MCL. During the calendar year 2000, a total of 363 bacteriological MCL violations were reported in California. These violations were reported by 284 PWS. There were also 448 significant monitoring and/or reporting violations reported by 309 PWS during the year.

Twenty-one (21) PWS reported a total of twenty-three (23) acute MCL violations. An acute MCL violation indicates that a PWS detected fecal coliform or E. coli bacteria in their drinking water supply. 261 PWS reported a total of 338 non-acute MCL violations. A non-acute MCL violation indicates that a PWS detected total coliform bacteria in their drinking water supply.

The 448 monitoring violations identified by 309 PWS indicate that these PWS did not complete the required bacteriological monitoring for their water systems for at least one month during the year.

The Total Coliform Rule violations are summarized in Appendix A and the names of the PWS reporting the violations are included in Appendix B.

Surface Water Treatment Rule

The Surface Water Treatment Rule establishes treatment techniques in lieu of MCL's for Giardia lamblia, viruses, bacteria, Legionella, heterotrophic plate count, and turbidity. Three (3) PWS that do not provide filtration reported five (5) turbidity MCL violations. Eleven (11) PWS using filtration reported twenty-six (26) violations of the treatment technique established for their system. Three (3) of these eleven (11) PWS reported multiple violations of their treatment technique. The Surface Water Treatment Rule violations are summarized in Appendix A and the names of the PWS reporting the violations are included in Appendix B.

Lead and Copper Rule

In May 1991, National Primary Drinking Water Regulations for Lead and Copper were promulgated by the USEPA. The State of California did not adopt regulations implementing the federal Lead and Copper Rule until September 16, 1996. Consequently, the USEPA assumed the responsibility for administering the Lead and Copper Rule in California from 1991 through late 1996. The currently available violation data from SDWIS reflects violations that occurred during 1992 through 1994 as provided by the USEPA into the SDWIS database at that time. The SDWIS database does not contain any data which reflects new Lead and Copper Rule violations that occurred during the calendar year 2000.

SECTION IV: Conclusions

Overall the drinking water quality delivered by the PWS to the citizens of California generally meets all of the federal drinking water standards and is safe to drink. The significance of the identified violations for each contaminant category is as follows.

Organic Contaminants

Approximately 99.98% of California's population served by PWS received drinking water that satisfied all of the primary drinking water standards for organic contaminants.

Trichloroethylene was the only organic contaminant for which a violation was reported. A single trichloroethylene violation (greater than 0.005 mg/l) was reported by one (1) PWS that serves a population of approximately 5,000 which represents approximately 0.02% of the state total population. Consuming drinking water with a low level of trichloroethylene over a long period of time could increase the risk of cancer in humans.

Inorganic Contaminants

Approximately 99.98% of California's population served by PWS received drinking water that satisfied all of the primary drinking water standards for inorganic contaminants.

Nitrate was the only inorganic contaminant for which violations were reported. Nitrate MCL violations (greater than 45.0 mg/l) were reported by nine (9) PWS that serve a total population of approximately 6,590 which represents approximately 0.02% of the state total population. Consuming drinking water with an excessive nitrate level can cause serious illness and possible death in infants that are less than six (6) months of age.

Total Coliform Rule

Approximately 95.17% of California's population served by PWS received drinking water that continuously satisfied all of the primary drinking water standards for bacteriological quality.

Acute bacteriological MCL violations were reported by twenty-one (21) PWS that serve a total population of approximately 980,489 which represents approximately 2.89% of the state population. Nineteen (19) PWS reported single acute bacteriological MCL violations and two (2) PWS reported two (2) single consecutive violations. The single violations indicate that the circumstances causing the violations were corrected immediately. As a result of these violations, the affected population was briefly exposed to a significant public health risk due to bacteriological contamination of their drinking water supplies.

Non-acute bacteriological MCL violations were reported by 263 PWS that serve a total population of approximately 654,645 which represents approximately 1.94% of the state population. These non-acute bacteriological violations do not necessarily indicate that the affected population was exposed to a public health risk. Typically, these violations are the result of improper water sampling and/or inadequate cleaning of water distribution systems.

Bacteriological monitoring violations were reported by 309 PWS that serve a total population of approximately 45,751. The failure to complete the required bacteriological monitoring prevented these PWS from determining compliance with the primary drinking water standards for bacteriological quality.

Surface Water Treatment Rule

Approximately 99.85% of California's population served by PWS that use surface water received drinking water that continuously satisfied the filtration treatment and monitoring provisions of the Surface Water Treatment Rule.

Three (3) unfiltered PWS that reported turbidity MCL violations serve a total of 9,995 people which represents approximately 0.03% of the state population. Eleven (11) PWS that reported treatment technique violations serve a total of 31,506 people which represents approximately 0.12% of the state population. Eight (8) of these eleven (11) PWS reported the violation for only one (1) month, one (1) PWS reported it for three months, one (1) PWS reported it for four (4) months, and one (1) PWS reported it for 11 months. Treatment technique violations related to the Surface Water Treatment Rule are typically reported as a result of elevated turbidity levels in the water or a failure to maintain the required level of disinfection. High turbidity levels or inadequate disinfection are indicators of potential breakthrough of cryptosporidium, giardia, bacteria, or viruses in the treatment process.

Enforcement Activities

In response to the violations identified in this report for the calendar year 2000, a total of 1,557 enforcement letters, 307 citations, and 23 compliance orders were issued to affected PWS. This aggressive enforcement is a key element of the Department's overall regulatory strategy to bring all PWS into full compliance with the drinking water regulations and ensure that all Californians receive safe drinking water.